

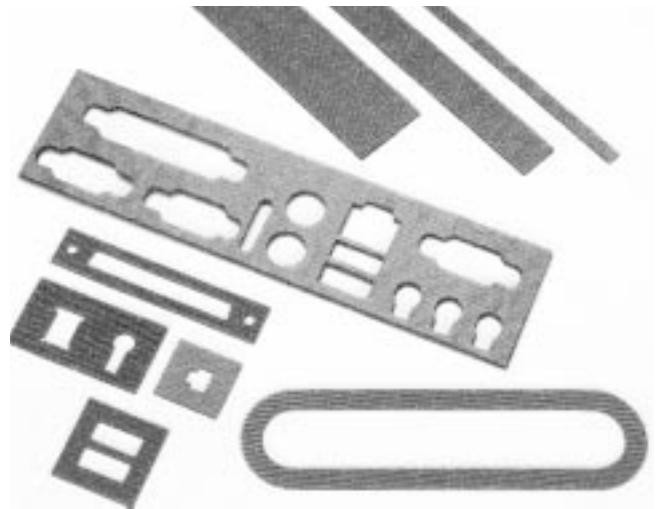


Conductive Foam

Conductive Foam offers an innovative approach to traditional shielding and grounding by providing X, Y, and Z-axis conductivity, which enhances the shielding effectiveness required to meet the increasing microprocessor speeds of today's computer, telecommunications, and aerospace equipment.

Conductive Foam is designed for low-cycling applications such as input/output (I/O) shielding and other non-shear standard connectors. Rectangular strips are available for perimeter gasketing applications.

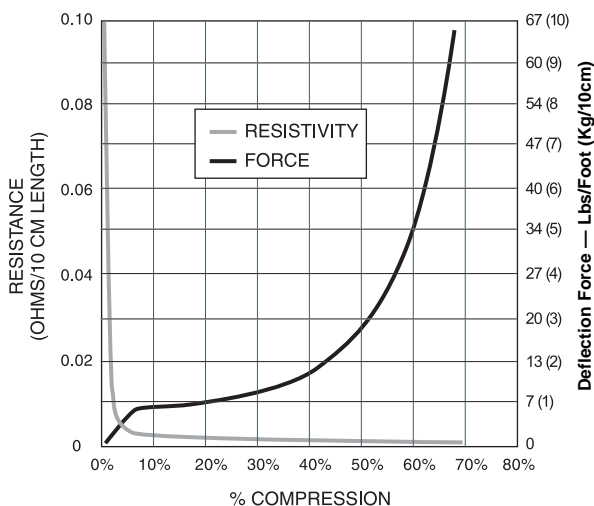
- Halogen-free conductive foam gaskets meet 2006 European Union Directives against the use of bromide in electronic products.
- Improved Z-axis conductivity increases shielding effectiveness to over 90 dB across a wide range of frequencies.
- Available in 0.039" (1 mm), 0.060" (1.5 mm), 0.079" (2 mm), and 0.125" (3.2 mm) thicknesses and widths down to 0.125" (3.2 mm).
- Wide compression ranges of up to 60 % of original uncompressed thicknesses.
- Available in both UL94 HB and V0 rated versions.
- Available in many standard configurations including D-sub, USB port, IEEE 1394, SCSI, and RJ-45. Also available in sheet stock and rectangular profiles.
- Custom die-cut versions are also available.
- Die-cut I/O designs, Rectangle Strip gaskets and Backplane gaskets can be supplied with or without conductive or non-conductive adhesive.



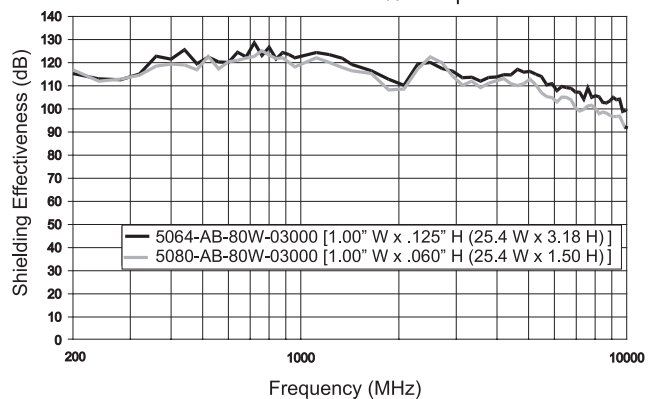
Product Performance/Physical Properties

X-Y-Axis Surface Resistivity (ASTM F390)	< 0.1 ohms/square
Z-Axis Resistivity (APM 130)	< 0.03 ohms/square
Shielding Effectiveness (Mil Std 285 Mod.)	> 90 dB (200 MHz to 10 GHz)
Abrasion Resistance (ASTM D3886)	> 1,000,000 Cycles
Compression Set (ASTM 3574)	5 % to 20 %
Service Temperature (ASTM (D746)	-40 °F to 158 °F (-40 °C to 70 °C)
Pressure Sensitive Adhesive 180 Degree Peel Strength (ASTM D3330 Mod.)	<i>Non Conductive:</i> 20 Ounces/Inch Width <i>Conductive:</i> 30 Ounces/Inch Width (Only when PSA is used)

Force Displacement Resistance Graph
 .125" (3,2 mm) Thick x 1.50 (38,1 mm) Wide
 Ni/Cu Conductive Foam Gasket



Shielding Effectiveness per MIL-STD-285 (mod.)
 Conductive Foam at 40% Compression



All dimensions shown are in inches (millimeters) unless otherwise specified.



Conductive Foam

Conductive Foam Gasket Tolerances

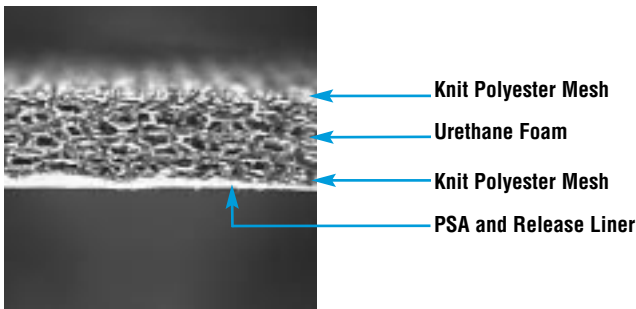
Profile	Tolerance Inches (Millimeters)
Height & Width	± .020 (0.5)
Length Inches (Millimeters)	Tolerance Inches (Millimeters)
1 to 6 (25.4 – 152.4)	± .030 (0.8)
6 to 11 (152.4 – 279.4)	± .050 (1.3)
11 to 48 (279.4 – 1219.2)	± .100 (2.5)
48 to 70 (1219.2 – 1778.0)	± .187 (4.7)
70 to 96 (1778.0 – 2438.4)	± .250 (6.4)

Pressure Sensitive Adhesive

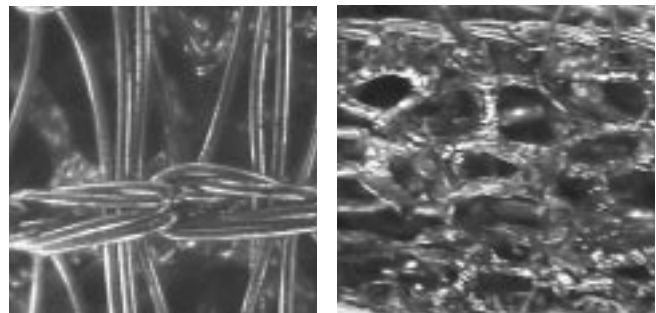
Pressure Sensitive Adhesive	180° Peel Strength on Stainless Steel (ASTM D 3330)	Temperature Resistance (3M™ Internal Test)	Application	Thickness
Conductive	30 oz/Inch width	-40F to 158F (-40C to 70C)	I/O - Backplane Profile Gaskets	2 mils (.051)
Non-Conductive	20 oz/Inch width	-40F to 158F (-40C to 70C)	I/O - Backplane Profile Gaskets	1 mils (.025)

Other Pressure Sensitive Adhesives can be provided. Contact Engineering to discuss requirements.

Conductive Foam Construction



Cross Section
100% Ni/Cu Metallized



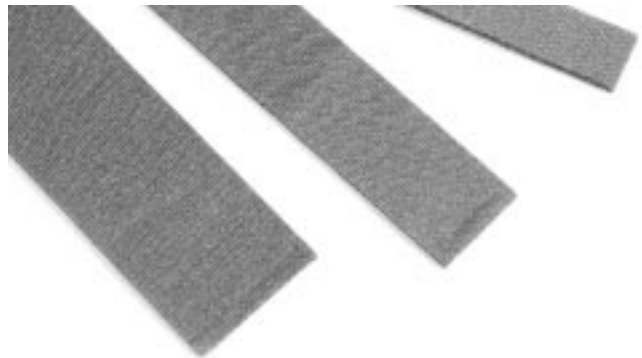
Top and Bottom Surfaces
Ni/Cu Knit Polyester Mesh

Core
Ni/Cu Metallized Urethane Foam

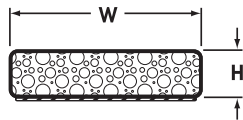


Conductive Foam Profile Selection Guide

Conductive foam in a rectangular profile design provides a great alternative to standard Fabric-Over-Foam profile gaskets in low shear applications. Supplied in UL94 HB or UL94 V0 fire rated material, with either conductive or non-conductive adhesive, conductive foam is a cost-effective solution for many perimeter shielding and grounding applications.



Rectangle Shaped



Profile Number	inches (mm) H	inches (mm) W
5286	0.040 (1.0)	1.850 (47.0)
5176	0.040 (1.0)	2.580 (65.5)
5100	0.040 (1.0)	3.350 (85.1)
5997	0.040 (1.0)	4.000 (101.6)
5308	0.060 (1.5)	0.120 (3.0)
5157	0.060 (1.5)	0.480 (12.2)
5080	0.060 (1.5)	1.000 (25.4)
5023	0.060 (1.5)	1.500 (38.1)
5076	0.060 (1.5)	1.630 (41.4)
5220	0.060 (1.5)	2.210 (56.1)
5214	0.060 (1.5)	2.410 (61.2)
5167	0.060 (1.5)	2.540 (64.5)
5168	0.060 (1.5)	2.540 (64.5)
5078	0.060 (1.5)	2.840 (72.1)

Profile Number	inches (mm) H	inches (mm) W
5092	0.060 (1.5)	3.050 (77.8)
5104	0.060 (1.5)	3.400 (86.4)
5174	0.060 (1.5)	3.600 (91.4)
5015	0.060 (1.5)	4.380 (111.2)
5191	0.060 (1.5)	4.000 (101.6)
5233	0.125 (3.2)	0.200 (5.0)
5125	0.125 (3.2)	0.390 (9.9)
5064	0.125 (3.2)	1.000 (25.4)
5219	0.125 (3.2)	1.500 (38.1)
5169	0.125 (3.2)	2.000 (51.0)
5221	0.125 (3.2)	2.210 (56.1)
5262	0.250 (6.4)	0.250 (6.4)
5261	0.250 (6.4)	2.250 (57.2)

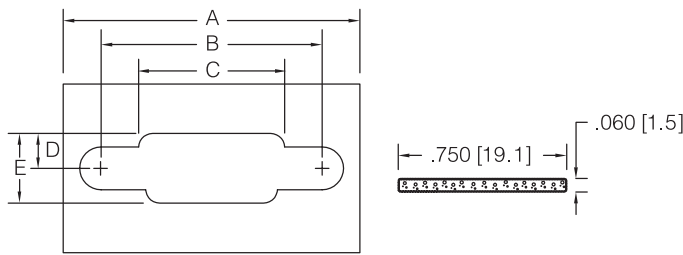
All dimensions shown are in inches (millimeters) unless otherwise specified.



Conductive Foam I/O Gaskets Selection Guide

For shielding and grounding, conductive foam is an excellent material for Input/Output (I/O) applications. Conductive foam has excellent X, Y, and Z-axis conductivity and shielding effectiveness over 90 dB for a wide range of frequencies. Laird Technologies can help design custom gaskets to your specification using a sketch, electronic drawing or your actual equipment.

Shown here are some examples of I/O gaskets designed for specific applications.

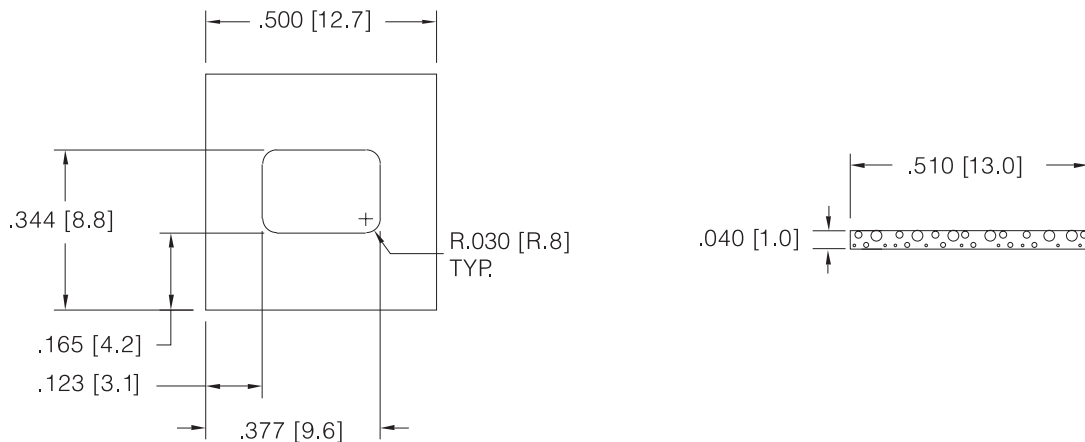


D-Sub Connector Series

Part No.	#Pins	A	B	C	D	E	Usage
5164-EE	9	1.320 (33.5)	.984 (25.0)	.650 (16.5)	.155 (4.0)	.310 (8.0)	Serial, Mouse, Com, Port
5164-EA	25	2.204 (56.0)	1.865 (47.4)	1.500 (38.1)	.155 (3.9)	.310 (7.9)	Parallel, Serial, Scanner, Printers
5164-EF	37	2.859 (72.6)	2.535 (64.4)	2.200 (55.9)	.220 (5.6)	.310 (7.9)	Serial Port

USB Port 4 Pin Connector, Part Number 5068-EA

Usage: Multi-use, hot plug-and-play

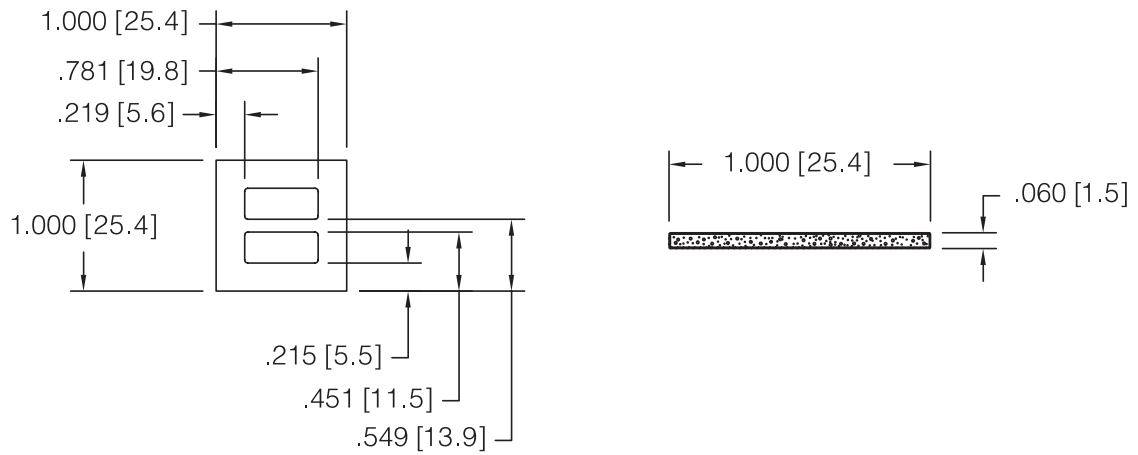


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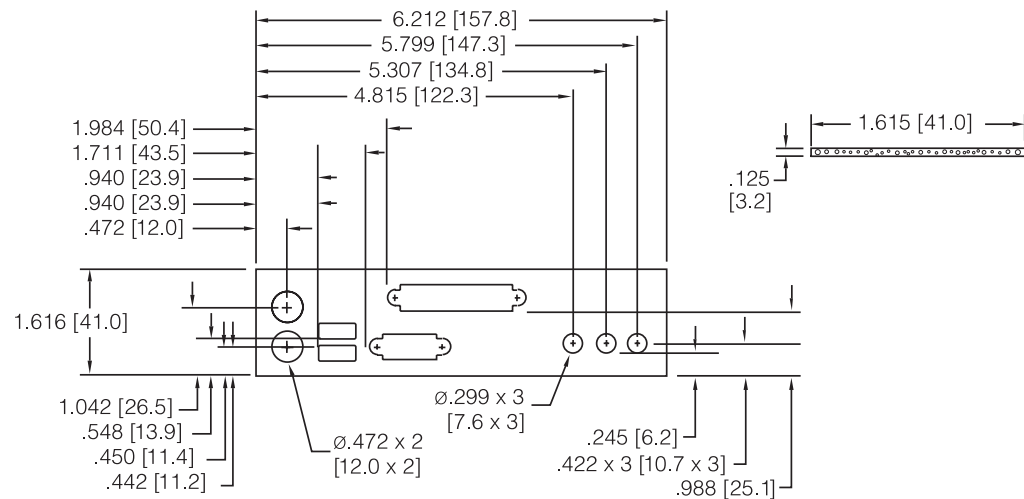
USB Port Connector, Part Number 5037-EB

Usage: Peripheral Port



I/O Connector, Part Number 5239-EG

Usage: Standard PC Motherboard/Main Board (MB) I/O Shield



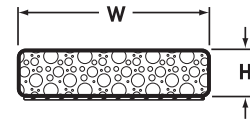
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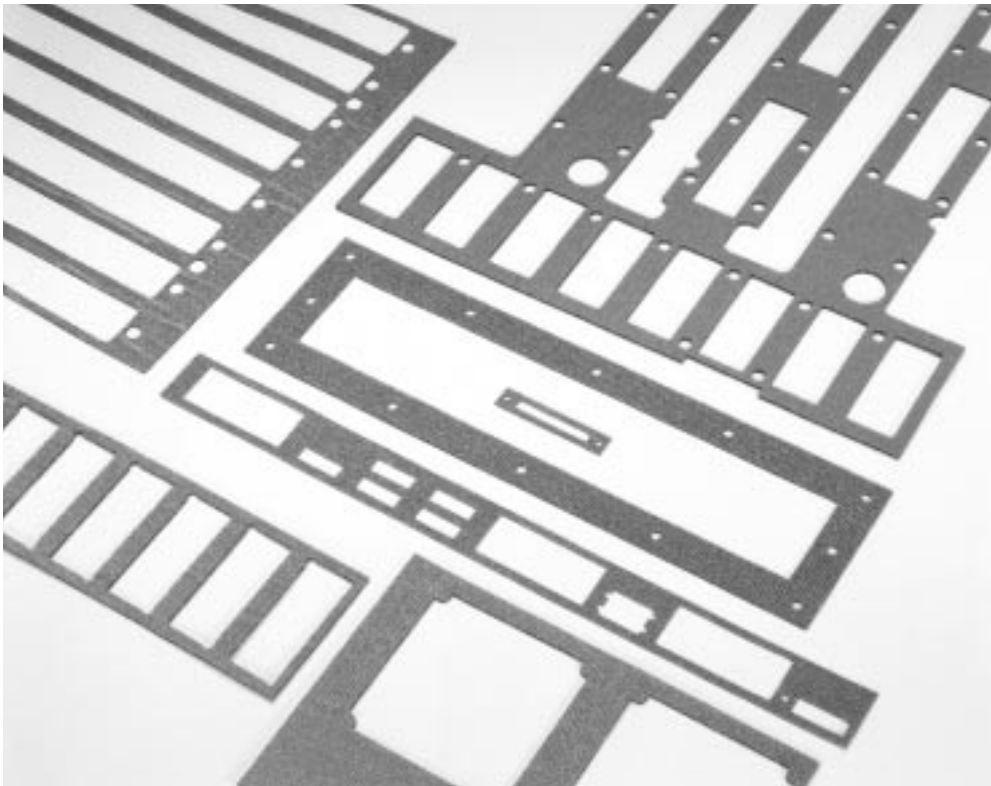
Backplanes – Large Conductive Foam Gaskets Selection Guide

Conductive foam is a perfect material for any size server, router, or switch system. For example, die-cut solutions can be provided at any length by 54" (1370 mm) wide. As with standard I/O gaskets, Laird Technologies can help design a gasket that fits your application.

Backplane Profile



Profile Number	inches (mm) H	inches (mm) W
5010	0.060 (1.5)	6.000 (152.4)
5241	0.060 (1.5)	5.250 (133.4)
5248	0.060 (1.5)	5.630 (143.0)
5269	0.060 (1.5)	5.880 (149.4)
5264	0.060 (1.5)	7.870 (200.0)
5152	0.060 (1.5)	25.500 (647.7)
5044	0.125 (3.2)	6.150 (156.2)
5151	0.125 (3.2)	6.500 (165.1)
5213	0.125 (3.2)	5.820 (147.8)
5249	0.125 (3.2)	6.490 (164.8)
5268	0.125 (3.2)	6.750 (171.5)
5999	0.125 (3.2)	14.000 (355.6)
5242	0.185 (4.7)	6.000 (152.4)



Examples of Large Backplane Gaskets



Conductive Foam Profile and I/O Gaskets Ordering Information

Part Number Example:

Digits: 1 2 3 4 5 6 7 8 9 10 11 12 13 14
5 2 3 9 - X X - 8 2W - 0 2 6 0 0

Digit 1: Product Type

Designates conductive foam (5).

Digits 2 through 4: Drawing Number for Basic Profile

Designate the part shape and size. (i.e., In the above example, the "239" indicates a 0.125" (3.2 mm) high by 1.615" (41.0 mm) wide flat stock gasket.) These digits will be defined and supplied by Laird Technologies Engineering personnel.

Digits 5 through 6: General Guidelines of Customized Options

Designate part-specific attributes of the product including cutouts, notches, tape width, tape position and a variety of other customized details. These digits will be defined and supplied by Laird Technologies Engineering personnel.

Digit 7: Core Material

Designates the core material Nickel/Copper (Ni/Cu) foam (8).

Digit 8: Flammability Rating

Designates the fire rating: (1) - UL94 V0
(2) - UL94 HB

Digit 9: Cover Fabric

Designates the outer covering
W = Ni/Cu Mesh with PSA
X = Ni/Cu Mesh

Digits 10 through 14: Specific Cut Lengths

Designates the part length in inches to two decimal places. (i.e., In the above example, the "02600" denotes a 26.00 inch (660.40 mm) long gasket.) For reeled gasket material, it designates the reel length in feet to two decimal places.



Construction Options

Part Number Suffix (Digits 7,8,9)	Metallized Fabric Type	Core Material	UL94 Fire Rating	General Benefits	Target Application
81W	Ni/Cu Mesh with PSA	Ni/Cu Foam	UL94 V0	Flame Retardant, Low Compression Set, Adhesive	Profile, I/O, Sheet or Backplane
82W	Ni/Cu Mesh with PSA	Ni/Cu Foam	UL94 HB	Flame Retardant, Low Compression Set, Adhesive	Profile, I/O, Sheet or Backplane
81X	Ni/Cu Mesh	Ni/Cu Foam	UL94 V0	Flame Retardant, Low Compression Set	Profile, I/O, Sheet or Backplane
82X	Ni/Cu Mesh	Ni/Cu Foam	UL94 HB	Flame Retardant, Low Compression Set	Profile, I/O, Sheet or Backplane

To order, contact our Sales Department.

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